

# U.S. Beef in Africa: Opportunities and Challenges

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# Meat Industry Concerns in U.S.-Africa Trade Relations

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07.18.2025 By Rachael Ostman



DENVER – Meat industry trade groups have submitted comments to the Office of the US Trade Representative (USTR) as it conducts an annual review of the African Growth and Opportunity Act (AGOA), which provides favorable access to the US market for products from approximately 30 African nations.

The act is set to expire Sept. 30 unless Congress takes action to renew the program.

# USMEF in Africa



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## USMEF Africa Representative Joins USDA's First Trade Mission to Angola

Published: Mar 20, 2024

This news item features a background image of a white truck with a trailer, likely used for transporting meat products, parked in an outdoor setting.



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Published: Jan 10, 2025

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## USMEF Leads U.S. Red Meat Team on Trade Mission to Ghana

Published: Apr 28, 2025

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# Objectives

The objectives are to:

- ▶ assess the structure of Africa's meat import demand market and its concentration;
- ▶ Estimate the potential effects of preferential trade agreements on U.S. beef exports to Africa.

# Data and Structure

## Data Sources

- ▶ Bilateral trade flows (HS 0201, 0202, 0203, 0207): **CEPII (BACI)**
- ▶ Applied tariffs: **ITC MacMap**

## Data Structure

- ▶ Meat markets: Beef, Poultry, Pork
- ▶ Number of HS6 products: 25
- ▶ African importers: 51 countries
- ▶ Sample period: 2007–2023

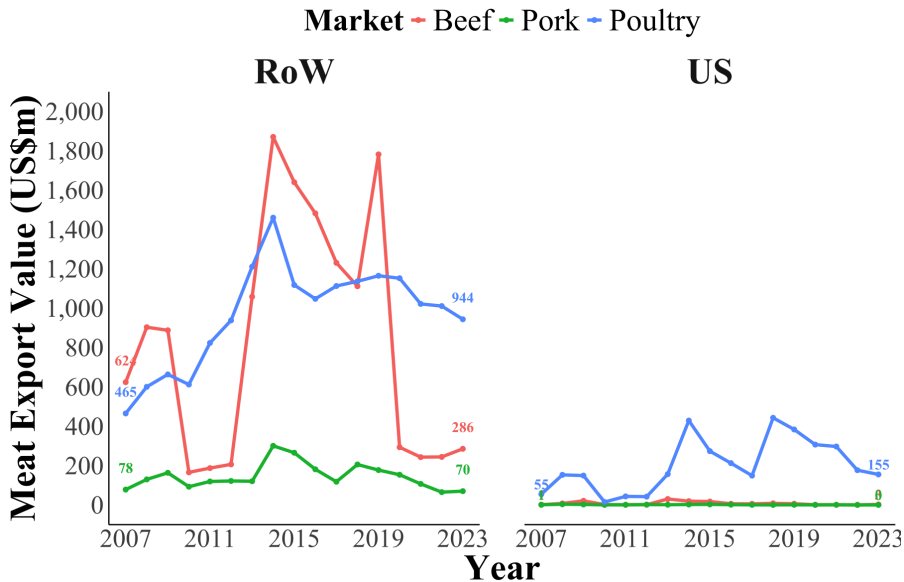


Figure 2: Annual Trend of Meat Export to Africa (RoW vs U.S)

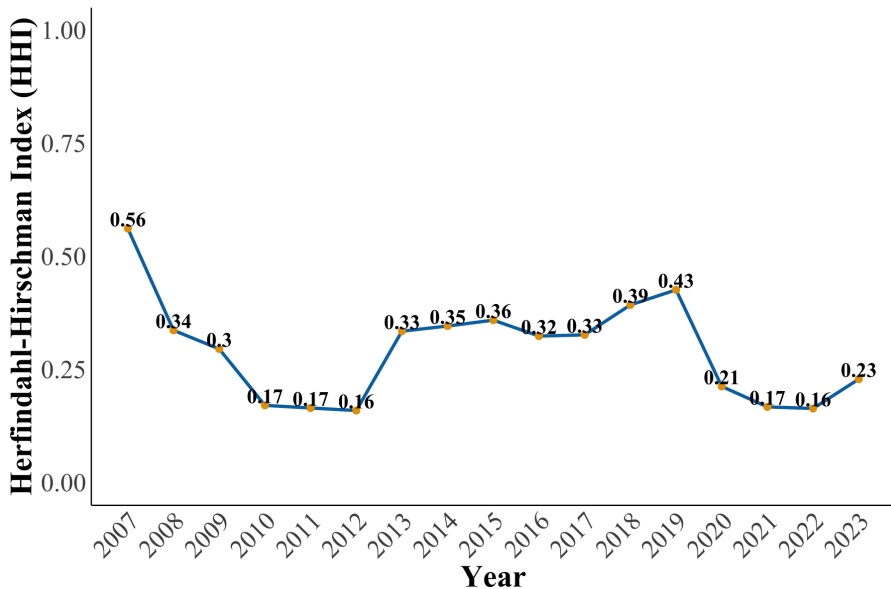


Figure 3: Beef Market Concentration in Africa

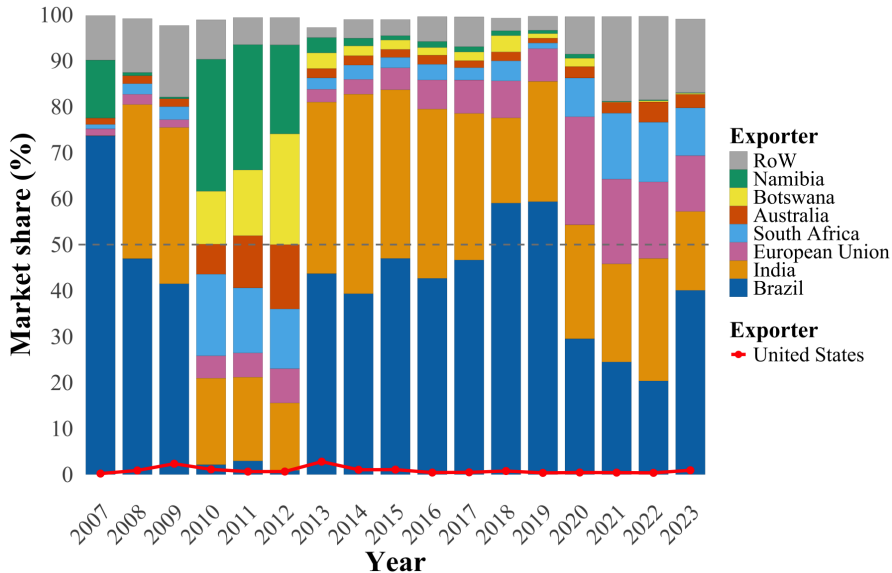


Figure 4: Concentration of Africa's Beef Import Market by Top Exporters

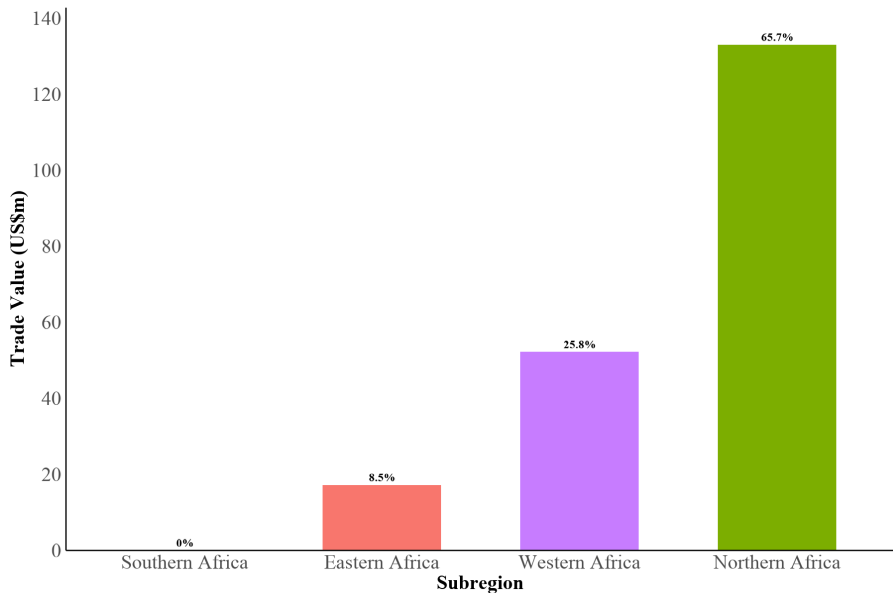


Figure 4: 2023 Beef Trade Share by African Subregion.

## 2023 Trade and Tariff for Top Beef Exporters and U.S. (Trade values in \$USm)

Subregion	Importer	Brazil	European Union	India	United States
Northern Africa	Libya	76.26 (0.00)	0.01 (0.00)	4.57 (0.00)	0.03 (0.00)
Northern Africa	Morocco	24.65 (1.84)	20.51 (1.05)		0.29 (1.83)
Northern Africa	Tunisia	5.54 (0.36)	0.02 (0.36)	1.18 (0.36)	
Western Africa	Benin		0.06 (0.35)		
Western Africa	Burkina Faso		0 (0.35)	0.01 (0.35)	
Western Africa	Côte d'Ivoire	1.55 (0.35)	1.42 (0.35)	1.1 (0.35)	
Western Africa	Gambia		0.24 (0.35)	1.76 (0.35)	1.66 (0.35)
Western Africa	Ghana	0.77 (0.35)	4.99 (0.35)	0.18 (0.35)	0.07 (0.35)
Western Africa	Guinea	0.35 (0.35)	0.22 (0.35)	0.35 (0.35)	0.06 (0.35)
Western Africa	Guinea-Bissau		0.13 (0.35)		
Western Africa	Liberia	1.39 (0.35)	0.07 (0.35)	0.37 (0.35)	0 (0.35)
Western Africa	Mali		1.19 (0.35)		
Western Africa	Niger		0.39 (0.35)		0.12 (0.35)
Western Africa	Senegal	1.34 (0.35)	2.66 (0.35)	28.51 (0.35)	0 (0.35)
Western Africa	Sierra Leone	0 (0.35)	0.88 (0.35)	0.23 (0.35)	0.13 (0.35)
Western Africa	Togo		0.03 (0.35)		

## Stylized facts on Africa's beef import market:

- ▶ Highly concentrated, dominated by Brazil & India.
- ▶ A region-specific market with Northern and Western Africa doing about 90% of beef imports.
- ▶ Non-tariff measures may be constraining U.S. market access more than tariffs.

Effect of potential PTA on U.S. meat exports to Africa:

### Step 1: Baseline Estimations

- ▶ Estimate a general gravity model accounting for tariffs, NTMs, including PTA-based NTM harmonization
- ▶ Construct 2023 baseline trade values under observed 2023 trade policies

### Step 2: Counterfactual Simulation

Simulate 2023 trade flows under alternative U.S.–Africa policy shocks:

- ▶ Price-based trade cost reductions (tariffs)
- ▶ PTA-facilitated NTM harmonization

### Step 3: Policy Scenarios

Policy shocks are applied to different subsets of African trading partners:

- ▶ **Scenario A:** All African countries
- ▶ **Scenario B:** AGOA-eligible African countries
- ▶ **Scenario C:** Large African meat-importing countries

## Job Market (2025)

PhD Candidate, University of Nebraska-Lincoln  
(International Trade, Food Policy & Agricultural Production)

## Contact Information

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Thank you!

## References I

- Anderson, J. E., Larch, M., and Yotov, Y. V. (2018). Geppml: General equilibrium analysis with ppml. *The World Economy*, 41:2750–2782.
- Ridley, W. C., Luckstead, J., and Devadoss, S. (2024). Impacts of tariffs and ntms on beef, pork and poultry trade. *Journal of Agricultural Economics*, 75(2):546–572.

## Step 1a: Estimate general gravity model

Following (Ridley et al., 2024) and (Anderson et al., 2018),

$$\begin{aligned}
 X_{ijt} = \exp \left[ \beta_0 + \beta_1 \ln(1 + \text{Tariff}_{ijt}) + \beta_2 \text{SPS}_{ijt} + \beta_3 \text{TBT}_{ijt} \right. \\
 \left. + \beta_4 \text{PTA}_{ijt} + \beta_5 (\text{SPS}_{ij,23} \times \text{PTA\_HARM}_{ij,23}) + \beta_6 (\text{TBT}_{ij,23} \times \text{PTA\_HARM}_{ij,23}) \right. \\
 \left. + \alpha_{it} + \gamma_{jt} + \delta_{ij} \right] \cdot \varepsilon_{ijt}.
 \end{aligned}
 \tag{1}$$

- ▶  $X_{ijt}$ : beef exports from exporter  $i$  to African importer  $j$  at time  $t$
- ▶  $\text{Tariff}_{ijt}$ : effective applied tariff
- ▶  $\text{SPS}_{ijt}$ : No of Sanitary and Phytosanitary measures
- ▶  $\text{SPS}_{ijt}$ : No of Technical barriers to trade
- ▶  $\text{PTA}_{ijt}$ : preferential trade agreement indicator
- ▶  $\alpha_{it}, \gamma_{jt}$ : exporter-year and importer-year fixed effects
- ▶  $\delta_{ij}$ : bilateral pair fixed effects

## Step 1b: Baseline Trade Flows (2023)

The baseline U.S. meat exports to African importers are constructed as:

$$X_{ij,23}^B = \exp \left[ K_{ij}^B + \alpha_{i,23} + \gamma_{j,23} \right] \quad (2)$$

where various bilateral trade policies and their parameters from (1) are grouped into:

$$\begin{aligned} K_{ij}^B = & \hat{\beta}_0 + \hat{\beta}_1 \ln(1 + \text{Tariff}_{ij,23}) + \hat{\beta}_2 \text{SPS}_{ij,23} \\ & + \hat{\beta}_3 \text{TBT}_{ij,23} + \hat{\beta}_4 \text{PTA}_{ij,23} \\ & + \hat{\beta}_5 (\text{SPS}_{ij,23} \times \text{PTA\_HARM}_{ij,23}) \\ & + \hat{\beta}_6 (\text{TBT}_{ij,23} \times \text{PTA\_HARM}_{ij,23}) \\ & + \hat{\delta}_{ij} \end{aligned}$$

## Step 2: Counterfactual Simulation

The policy shock focuses on:

- ▶ Price-based trade cost reductions (tariffs)
- ▶ PTA-facilitated NTM harmonization

The counterfactual trade flows follow:

$$X_{ij,23}^{CF} = \exp \left[ K_{ij,23}^{CF} + \alpha_{i,23} + \gamma_{j,23} \right] \quad (3)$$

where  $K_{ij,23}^{CF}$  aggregates counterfactual policies:

$$\begin{aligned} K_{ij,23}^{CF} = & \hat{\beta}_0 + \hat{\beta}_1 \ln(1 + \text{Tariff}_{US,j,23}^{CF\_shock}) + \hat{\beta}_2 \text{SPS}_{ij,23} \\ & + \hat{\beta}_3 \text{TBT}_{ij,23} + \hat{\beta}_4 \text{PTA}_{ij,23} \\ & + \hat{\beta}_5 (\text{SPS}_{ij,23} \times \text{PTA\_HARM}_{ij,23}^{CF}) \\ & + \hat{\beta}_6 (\text{TBT}_{ij,23} \times \text{PTA\_HARM}_{ij,23}^{CF}) + \hat{\delta}_{ij} \end{aligned}$$

## Step 2: Counterfactual Simulation

Using the estimated fixed effects  $\hat{\alpha}_{i,t}$  and  $\hat{\gamma}_{j,t}$  from (3), simulated trade under tariff shocks is given by:

$$X_{ij,23}^{CF} = \exp \left[ K_{ij}^{CF} + \hat{\alpha}_{i,t} + \hat{\gamma}_{j,t} \right].$$

Counterfactual U.S. export gains are computed as:

$$\Delta X_{US,j} = \hat{X}_{US,j}^{CF} - \hat{X}_{US,j}^{Baseline}$$

Aggregate effects are obtained by summing across African importers